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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/880,698	06/12/2001	Henricus Jozef Vergeest	40843-C	4316

7590 02/27/2004

The Whitaker Corporation  
Suite 450  
4550 New Linden Hill Road  
Wilmington, DE 19808

EXAMINER

KIANNI, KAVEH C

ART UNIT	PAPER NUMBER
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2877

DATE MAILED: 02/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/880,698

**Applicant(s)**

VERGEEST ET AL.

**Examiner**

Kevin C Kianni

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2,6,7,9-15,18,24 and 25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9,11,13-15,18,20 and 21 is/are allowed.
- 6) ☐ Claim(s) 6,7,10,12,19,24 and 25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>7</u> . | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

- Applicant's canceling of claims 1-5, 8, 16-17 and 22 on November 14, 2003 is acknowledged.
- Applicant's request for examiner's acknowledgement of IDS previously submitted (6/20/03) and resubmitted (11/20/2003) is acknowledged. The examiner states however, that, regretfully/inadvertently, the IDS that was originally acknowledged by the examiner on 6/20/2003 was not somehow mailed to the applicant and thus the same IDS form is being sent to applicant with this office action. Furthermore, since Kinoshita et al. (JP354030590A) is a reference that was cited in the IDS, and currently being used by the examiner to reject one or more of the previously objected claims this action is being a non-final action.

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:  
  
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
2. Claim 11 recites the limitation 'said predetermined angle being repeatable within less than +/- 0.5° at the corner region', in lines 9-10 of the claim, is a functional result that does not have any support by the relevant preceding steps and it is not clear how this step is being implemented. There is insufficient antecedent basis for this limitation in the claim.

### ***Allowable Subject Matter***

3. The following is a statement of reasons for the indication of allowable subject matter: Claim 9 is allowed because the prior art of record, taken alone or in

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combination, fails to disclose or render obvious cutting said glass fiber along said path to shape a wedge on the end face of the fiber in combination with the rest of the limitations of the base claim. Claims 13-15, 18 and 20-21 depend on claim 9 and therefore they are also allowed.

4. Claim 11 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action; since the prior art of record, taken alone or in combination, fails to disclose or render obvious said predetermined angle being repeatable within less than  $\pm 5^\circ$  in combination with the rest of the limitations of the base claim.

***Claim Rejections –***

***35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

***and –***

***35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

- This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 6 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Kinoshita et al. (JP354030590A).

Regarding claims 6 and 10, Kinoshita teaches a process for cutting at least one optical fiber (shown at least in figures 6 and 7, see abstract), the process comprising the steps of: introducing a glass fiber 6 into a holding and positioning device 27; actuating a laser device 20 to deliver a beam having a power suitable for sublimating glass (see fig. 6, item 20 and abstract); and effecting the relative movement of said beam across said glass fiber 6 along a path (see page 450, 2<sup>nd</sup> col., 2<sup>nd</sup> parag.+), thereby sublimating glass 6 and cutting said glass fiber 6 along said path (see page 450, 1<sup>st</sup> col., 2<sup>nd</sup> parag.+), said path having at least one predetermined angle 90° greater than about 15° (see abstract); and effecting the relative movement of said beam across said glass fiber 6 along a curved path (see at least fig. 6, item curved path of the fiber 6 (see page 450, 2<sup>nd</sup> col., 2<sup>nd</sup> parag.+); said predetermined angle is repeatable within less than +/-0.5° at the core region (see page 450, 1<sup>st</sup> col., 3<sup>rd</sup> parag.).

7. Claims 7, 12, 19 and 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kinoshita et al.

Regarding claim 7, Kinoshita teaches, as stated above, all limitations of claim 6. However, Kinoshita does not specifically teach wherein said predetermined angle is about 45°. Nevertheless, Kinoshita states that the cutting fiber in an angle is implemented by easily controlling laser CO<sub>2</sub> output on the fiber in order to obtain extremely reproducible fiber. Thus it would have been obvious to a person of ordinary skill in the art when the invention was made to adjust the angel of cutting fiber to a particular angle--such as by adjusting varying the angle of laser with respect to mirror 3, or the angle of mirror with respect to laser source 1— in order to obtain an optical fiber end having a particular angle such as about 45°, since such range would result in obtaining a an extremely high reproductive and clean end fiber having improved smoothness (see page 450, 1<sup>st</sup> col., 2<sup>nd</sup> parag.+); and since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Regarding claim 12, Kinoshita teaches a process for cutting at least one optical fiber (shown at least in figures 6 and 7, see abstract), the process comprising the steps of: introducing a glass fiber 6 into a holding and positioning device 27; actuating a laser device 20 to deliver a beam having a power suitable for sublimating glass (see fig. 6, item 20 and abstract); and effecting the relative movement of said beam across said glass fiber 6 along a path having a predetermined angle 90° (see

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page 450, 2<sup>nd</sup> col., 2<sup>nd</sup> parag.+), thereby sublimating glass 6 and cutting said glass fiber 6 along said path (see page 450, 1<sup>st</sup> col., 2<sup>nd</sup> parag.+).

However, Kinoshita does not specifically wherein said predetermined angle being within about  $\pm 10 \mu\text{m}$  of a reference surface along the optical axis of said glass fiber.

Nevertheless, Kinshita's fiber cutter includes a fine controller 29 that controls the relative movement the optical fiber 6 along its optical axis in vertical direction with respect to the surface of substrate 4 from  $0^\circ$  shown in at least figures 4 and 6 (see at least page 450, 1<sup>st</sup> col., 2<sup>nd</sup> parag.+). Thus, it would have been obvious to a person of ordinary skill in the art when the invention was made to adjust the path of the fiber 6 along its optical axis with reference to the substrate 4 such the predetermined angle  $90^\circ$  would be within about  $\pm 10 \mu\text{m}$  of the surface of the substrate 4, since such range would result in obtaining a an extremely high reproductive and clean end fiber (see page 450, 1<sup>st</sup> col., 2<sup>nd</sup> parag.+); and since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Regarding claims 19 and 24, Kinoshita teaches a fiber 6 obtained by introducing a glass fiber 6 into a holding and positioning device 27; actuating a laser device 20 to deliver a beam having a power suitable for sublimating glass (see fig. 6, item 20 and abstract); and effecting the relative movement of said beam across said glass fiber 6 along a path having a predetermined angle  $90^\circ$  (see page 450, 2<sup>nd</sup> col., 2<sup>nd</sup> parag.+), thereby sublimating glass 6 and cutting said glass fiber 6 along said path (see page 450, 1<sup>st</sup> col.,



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2<sup>nd</sup> parag.+), wherein said fiber 6 comprises an end face (shown at least in fig. 1, item 6).

However, Kinshita does not specifically teach wherein the above fiber comprises an end face at least a portion of which is angled at more than about 15°/45° from perpendicular of its optical axis. Nevertheless, Kinoshita states that the cutting fiber in an angle is implemented by easily controlling laser CO<sub>2</sub> output on the fiber in order to obtain extremely reproducible fiber. Thus it would have been obvious to a person of ordinary skill in the art when the invention was made to adjust the angel of cutting fiber to a particular angle--such as by adjusting varying the angle of laser with respect to mirror 3, or the angle of mirror with respect to laser source 1—in order to obtain an optical fiber end having a particular angle such as about 15°/45°, since such range would result in obtaining a an extremely high reproductive and clean end fiber with improved smoothness (see page 450, 1<sup>st</sup> col., 2<sup>nd</sup> parag.+); and since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Regarding claim 25, Kinshita further teaches wherein said relative movement of said fiber to said laser beam is effected in one of two ways, a first way in which the fiber moves and the laser beam remains stationary, and a second way in which the laser beam moves and the fiber remains stationary (see page 449, 2<sup>nd</sup> col., 1<sup>st</sup>–3<sup>rd</sup> parag.; also see page 450, 1<sup>st</sup> col., 3<sup>rd</sup>–4<sup>th</sup> parag.).

***Response to Arguments and Amendment***

8. Applicant's argument filed on 11/14/2003 have been fully considered, however, the examiner has used a new reference, from IDS previously submitted by applicant, for rejection of previously objected claims and thus this action is being a non-final action.

***Contact Information***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to K. Cyrus Kianni whose telephone number is (571) 272-2417.

The examiner can normally be reached on Monday through Friday from 8:30 a.m. to 6:00 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font, can be reached at (571) 272-2415.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to:**

(703) 872-9306 (for formal communications intended for entry)

**or:**

Hand delivered responses should be brought to Crystal Plaza 4, 2021 South Clark Place, Arlington, VA., Fourth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be directed to the Group Receptionist whose telephone number is (703) 308-0956.



K. Cyrus Kianni  
Patent Examiner  
Group Art Unit 2877

February 23, 2004